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EXAMINATION OF SCHOOLS.

This subject has, I believe, already been discussed in the *Teacher*, and yet, if I mistake not, some additional remarks may not be unprofitable. Opinions vary somewhat as to the utility of a formal examination of schools; they vary still more as to the manner in which such an examination should be conducted. Few, I think, can doubt the utility of an occasional examination, when viewed in its proper light. Those who do doubt it make the mistake of confounding an *examination* with an *exhibition*, and of transferring to the former the evils incident to the latter. An examination is not an end, but a means to an end. The end is the same as that of education in general: — the continuous and harmonious growth of the physical, intellectual, and moral powers. However true and faithful a teacher may be, however careful he may be, not to get into a fixed routine of manner and travel continually in the same circle, he, like everybody else, is imperfect; indolence or indifference will sometimes get the mastery of him; and he will need for his own benefit, an occasional test of the amount, quality, and value of the instruction he has been endeavoring to impart. Every teacher, — I know it from my own experience, — may be benefited by a fair and proper examination of his pupils.

If the teacher may thus be benefited, how much more may the pupils themselves be. They, comparatively speaking, have no past experience to show them the utility of this or that study, of this or that mode of disciplining the mind, of this or that habit in forming the character. They are, for the most part, creatures of impulse, creatures, so to speak, of the moment, acting for an immediate and tangible object. As a general remark, they love knowledge, but it is the knowledge which comes through the senses. They must hear, see, touch, taste, rather than think. To think requires effort, will. A few may love to think from the mere luxury of thought; a few may love to study from the mere love of study and the knowledge it secures; and this motive should be kept constantly before the mind of the pupil by the teacher, not only by precept, but by his own enthusiastic love of knowledge. Still, this motive is not strong enough in the great mass of pupils, to induce those habits of investigation, that patience and perseverance in the pursuit of knowledge, which the harmonious development of their powers and the necessities of the age require. They need something more immediate, more tangible. They are studying, for example, some subject in grammar, history, or arithmetic. They comprehend it very readily from the point of view assumed by the questions in the text-book, or by those of the teacher to which they are accustomed; but, to look at this subject from different points of view, so as not to be at a loss when it is brought up from these points, requires an effort on the part of the pupils, which comparatively few will make, without some person or something before them, which they know will put them to the trial. I know of nothing better for this purpose, than a thorough, fair, and proper examination.

But what is a thorough, fair, and proper examination? and, how shall it be conducted? Shall it be conducted before a crowd, or before one examiner, or a few? Shall it be conducted by the teacher, or by the examiner, or by both? No one answer can be given which will meet all emergencies. As a general rule, it should be conducted mainly by the examiner. This, however, implies many facts, which do not always exist. It implies that the examiner is *qualified* to perform the duty: — that he is acquainted with the operations of the youthful mind in its pursuit of knowl-

edge, knows how much to expect and what to expect from the ages and circumstances of the pupils before him, knows how to put them at their ease, so that they may be calm and collected in the trial, knows, also, accurately and critically, the studies they have been pursuing, and also, in many cases, the text-books which they have been using. But, how often do these qualifications meet in those who are appointed to examine our Common and High Schools? True, a person not familiar with the studies of a class, may get some general impression as to its condition, by listening to a recitation conducted by the teacher, and may judge with tolerable accuracy of the teacher's competency and faithfulness. But he is not sure of this; and, even if his judgment in this respect is, in the main, correct, he does not secure to the school the highest advantage of an examination. The teacher, almost inevitably puts his questions in the familiar form; the pupils look at the subject from their familiar stand-points; no new path of thought is opened either to the pupils or the teacher; and the ideal perfect at the close of the examination, is no higher than at the beginning. Besides, the examiner who is *ignorant* of the studies in which he pretends to examine, is liable to be imposed upon by the dishonesty of the pupils and teacher. Indeed, all are liable to this, both the ignorant and the knowing, but certainly the game can be performed more safely with the former than with the latter. In saying this I do not mean to accuse the profession, as a body, of being skilled in, or given to, this game. As a body, the teachers have, I believe, a higher standard of morality. Still, I believe, the game has been, and still is, *sometimes* played with success.

Again: persons distinguished in literature and science, eminent in the learned professions, attempt sometimes to examine boys and girls in their studies without knowing apparently how much or what to expect. I remember a lawyer attempted once to examine a class I had, fitting for college. He was a man of some fifty years of age; of superior talents, and extremely fond of Roman history; but he had forgotten the school-boy's routine in fitting for college. He was familiar with Justinian's Institutes as they are presented in Gibbon's splendid chapter, but he was not particularly accurate in those little things of accent, and quantity, and gender, and case, and tense, etc., etc., a knowledge of which was required in those

who aspired to enter into the penetralia of the temple of science at Cambridge. The class was reading Cicero's orations; they were reading them remarkably well, as *I* thought, for they were bright boys and enthusiastic in their studies. But what was my astonishment and chagrin to see them break down at the beginning of the examination! Instead of attending to the reading and translating of the passages given to them, he went into a critical examination of them in regard to the civil polity of Rome, the changes in the government, the legal principles involved in those changes, etc., etc. In one word, he went into an examination highly appropriate for candidates for a Doctorate in the Roman Civil Law, but altogether inappropriate to the candidates before him. At all events, it was altogether unfit to bring out what the boys had been doing. This was not done for the purpose of showing the boys up to disadvantage, but from mistaking the *kind* of knowledge which was *then* to be sought for.

Assuming that the examiner is *qualified* to perform his duty, his object should be to ascertain whether the pupils have done their work faithfully; — whether they have been taught to think, to reason, to compare, and to judge for themselves; whether they have been in the habit of doing their work themselves or of relying upon others; whether they have been in the habit of confining themselves exclusively to the text-books, or of gathering information from all the collateral sources within their reach; whether they have been in the habit of looking at the subject under consideration from one standpoint only, or from various; and, finally, whether they have been in the habit, as far as possible, of applying the principles of the daily lesson to the actual occurrences of daily life. The modes of ascertaining these facts are various; but, whatever mode may be adopted, it should be perfectly fair to both pupil and teacher; it should give credit for all that has been done, though it may show much more that ought to have been done. The idea that an examiner delights to show up a class to disadvantage, is, almost if not entirely without exception, false. It is the source frequently of much unhappy feeling on the part of teachers and pupils. It arises partly from confounding an *examination* with an *exhibition;* partly from an infelicity of manner, on the part of the examiner; partly, it may be, from personal prejudice; and

partly, sometimes, from a consciousness of incompetency or neglect of duty, on the part of the teacher.

Many of the so-called examinations of our schools are mere exhibitions, — shows got up for the occasion; and then, if an unlucky examiner should put a question to Susan that was intended for Mary, the fluttering is terrible. Susan may, ah! Susan does miss. The teacher, Susan, and Susan's mother are, in feelings, if not with their hands, down upon the poor examiner with a vengeance.

The truth is, exhibitions should be exhibitions; and they are not without their value, properly conducted. It is well sometimes to see how perfectly a specially-prepared exercise can be performed. It is delightful at times to hear beautiful reading, fine memoriter recitations, and thrilling declamations; — and these all got up for the occasion; but this should not take the place of the examination of the school. At the exhibition the teacher is the proper master of ceremonies; at the examination the examiner takes this office, unless he delegates it to the teacher, or calls him to his aid. At an exhibition the pupils are not expected to be sufficiently self-collected and composed to be able to reflect, reason, correct first thoughts. Time is too short. Too many visitors are present. Too many anxious hearts feel each other's pulsations. At an examination the discussion or talk that may arise on some question under consideration, between the pupils, teacher, and examiner, may be very valuable to the school, and give to the examiner a more correct view of its actual condition, — of its real effect upon the pupils physically, intellectually, and morally, — than he could obtain in any other way.

But in all examinations the strictest honesty should be observed by both examiner and pupil. Not the least shadow of deception should be tolerated on either side. Every correct thought of the pupil should be acknowledged and credited; every incorrect one noted and rejected. If the examiner does not happen to strike the vein which the pupils have been working, he should be informed of it, and give them a chance to bring up their treasures, if they have any to produce. Neither teacher nor pupil should be disturbed when the examiner strikes a vein which has not been worked, provided a chance is given to try those which have been

worked. Indeed, this *prospecting* around the circle in which the teacher and pupils have been revolving, may be very advantageous to both, by giving them a stimulus to enlarge the circle.

I remember a tutor once had a class in college, which recited to him in Greek and Latin. It was a studious class and contained some very superior scholars. The tutor endeavored to do justice to all in his recitations, giving each a portion in his due season. He felt desirous of giving some instruction, some *new* information, to his best scholars as well as to the poorest. He adopted the practice, therefore, of questioning his best scholars, — if time allowed, — till he came to some question which they could not answer. He then gave the answer himself, or observed that there was a new point for investigation. He did not think, however, to tell the class the principle of his action. One day, a scholar, one of the best, if not the best in the class, called at the tutor's room, and asked him why he, the tutor, always questioned him so critically, and caused him so frequently to fail in his answers. He said he *tried* to get his lessons, and thought before the recitation he *had* got them. Was it to disgrace him before the class? No, said the tutor. It is because I wish to give you some new information, or put you on the track of getting it yourself. I am satisfied, said he. But the tutor was wrong in not letting the class know the principles of his action.

Some such principle as this ought to be adopted by the examiner. Let him ascertain all that the pupil knows. Let him give credit for all that has been done with fidelity. Let him note properly all the faults that arise from a want of fidelity. And then if he can point out new avenues to knowledge, and add new incitements to improvement in everything that is wise and good, the examination will have accomplished its legitimate object. NEMO.

TEACHING is essentially a coöperative act. The mind of the teacher and the mind of the scholar must both act, and must act together, in intellectual coöperation and sympathy, if there is to be any true mental growth. — *Prof. Hart.*

STUDY OF BOTANY IN COMMON SCHOOLS.

BY DR. P. W. MOSBLECH.

THE study of Botany may begin even with the smallest children. They have an exquisite sense for beauty, and nowhere in nature are beauty and magnificence more displayed than in the vegetable kingdom. It serves, therefore, most remarkably, to develop the taste for the truly beautiful, which is not only a never-failing source of high and innocent enjoyment, but also the very foundation of morals.

For the development of inquisitiveness, botany is second to no other branch of natural history, if the teacher makes it his duty to impress upon the pupils the truth that there is not a single plant, yea, not a part of a plant, without its use and purpose.

Furthermore, it is of great advantage to initiate children early in this delightful science. They learn it much easier than more aged persons, because they possess a finer and more susceptible sense for distinguishing the features of things; and this is an important item in the study of plants. Not only may we, by a fine physiological tact, distinguish the various plants of the same natural order, but even poisonous ones from those that are innocuous.

My object, however, is not now to consider all the advantages which may be derived from botany, nor to give all the reasons why it should be taught in common schools, but to give a few practical lessons, as examples how it can be done. Teachers commonly think that botany cannot be taught without a manual in the hands of the learners; and manuals mostly begin with the most difficult things, shrouded in definitions and strange sounding names, which certainly will at once disgust young persons. The teacher who has never studied botany, may have a manual; but he must not follow it, neither for himself nor the children. We make it a point to show in the following practical lessons that even those teachers who have never paid any attention to botany, may learn and teach it simultaneously. We call the attention particularly to the following points:

1. All scientific and hard names should at first be avoided as much as possible. The most necessary botanical terms may be introduced by and by, and, as it were, by the way.

2. No scientific, methodical proceeding should be attempted in the beginning; plants should be taken up at random and explained, and named with a common name.

3. The instructions should be given by way of recreation, rather than as a study.

A LESSON ON PLANTS.

On a fine day the teacher takes the children into the grove near the school-house, and sits down with them. He takes a whole plant into his hand, saying, "Now, boys and girls, attention! What is this I hold in my hand?"

"A plant," is the answer of the children.

T. What? Do you mean to say that this (pointing out the root) is a plant?

P. No, sir; that is a root.

T. This, then (marking the flower), is a plant?

P. No, no, sir; that is a flower.

T. Then what I hold by my hand (the stem) is a plant?

P. No, sir, that neither; it is the stem.

T. Sure enough, now, these little shoots on the side of the stem you call a plant?

P. Not those, neither; they are the branches.

T. Ha! now I have it; these little green, neat, and flat things you call a plant?

The children laugh, thinking the whole a play, and exclaim, "No, sir; those are leaves."

The teacher smiles and answers, "Did I not hear you say that I held a plant in my hand? And now you tell me that I hold a root, and a stem, with branches, leaves, and a flower; where then is the plant?"

P. Well, all these together make a plant.

T. Having a root, then, a stem with branches, leaves, and a flower, I will have a plant, will I?

P. Yes, sir.

T. Now, I catch you there.

The teacher takes a root, a stem, branches, and a flower, from different plants, and puts them in his hand, saying, "Now I have a plant in my hand, have I?"

P. No, sir; you have parts of plants.

T. But did you not say that root, stem, branches, and leaves make a plant? Well, I have them all, and a flower also.

P. But they must be united together.

T. Well, suppose then I join them together; then I will have a plant.

P. No, sir; they must have grown together in the right way.

T. Ha! well, now I understand it.

He takes up his first plant, which is probably wilting already, and says, "Is this plant alive or dead?"

P. Alive.

T. Will it soon die or will it continue to live?

P. It will soon die; it is dying now. See how the leaves hang down, and how the flower droops.

T. Why will it die. It would not have died in the ground.

P. It dies for want of food.

A number of the pupils will be startled at this, and say, "Do plants eat and drink?"

T. Yes, my little friends, they eat and drink; and that, too, continually, by day and by night. For this reason people who wish to raise plants, for instance, corn or potatoes, carry food into their fields and gardens.

P. I never have seen people carry food into the field or the garden for the corn to eat.

T. Has no one of you seen it? Do they not carry *manure* into the field and the garden?

P. Oh, yes! and they do this to feed the crop? I never thought of that.

Another asks, "How do plants eat and drink?"

T. Well, children, I will tell you. It is curious enough, and it would be hard for you to guess. These roots here, with all their little threads and fibres, are as many sucking mouths when in the ground, and are always busily engaged in taking up from the soil what they like and want. I say what they *like;* because they are as dainty as the greatest gourmand. They do not take up every kind of food they meet, but what they like the best; and, what is still more wonderful, they walk about hunt-

ing for food, somewhat in the manner of chickens, although they do not go as far.

P. Why, sir, do you say that roots walk about?

T. Well, I believe I should not have said that. I must say that they move and stretch slowly; and, when the food is consumed, they grow longer, to reach with their ends another place, where they may find food. They twist and stretch also in various directions, hunting, as it were, for food. I could tell you some pretty stories about hunting roots, and of a little girl that saved a rosebush from starving; but I want you to run and jump about for a few minutes, before we enter our snug school-room again.

A LESSON ON FLOWERS.

One of the more difficult parts of plants to explain is the flower. Let the teacher who has not studied, as yet, the various parts of a flower, read attentively to himself in a manual of botany the chapter on inflorescence, so as to know the purposes and functions of the component parts of the flower. Then he will be able to give a lesson to his pupils somewhat like this:

Some flowers of large form, say lilies, are brought. The teacher says, "What a magnificent flower this is; only see the colors, so various, and yet so harmoniously beautiful! Do you know that flower?"

P. Yes; it is the meadow-lily.

T. Have you ever looked at the various parts of this flower? And have you ever thought of the purpose of these parts? God has never made anything without a purpose. Let us see if we can find out the purpose of all the parts of this flower. How many leaves has it? Count! "Six!" They stand like a little crown on the top of the little stem; therefore learned men call it a *corolla*, a little crown. Corolla is a good sounding word, and therefore I want you to learn it. I will write it on this slate; or here is a smooth-barked tree, the beech, you know; I will write on it. Observe that almost all flowers have corollas. Every leaf of the corolla is called a *petal*. I write this word also down. Do you see these long threads within the flower, with little boxes attached to them?

P. Yes, sir; but why do you call them boxes? Do they open like a box? and what is in them?

T. Yes, they open like a box ; and if you want to know what is in them, come here, one of you, and smell.

One of the boys or girls puts the nose to the flower, and gets it powdered. This creates general merriment. The teacher says, "If you want to know what is in these boxes, only look at his nose. But did you ever see bees and bumble-bees all powdered over, and their feet thickly beset with it?"

P. Yes, sir.

T. Did you ever think why the bees gather this powder?

P. No, sir.

T. Well, I will tell you at another time why they do it. We know now that these little things here are powder-boxes, and in some flowers they are shaped like horns, and might be called powder-horns.

P. What is the name of these boxes?

T. I fear that name is too learned for you, — *anthers!* (Writing the name.) Can you learn that name?

P. O yes, sir ; we will try to know all these names.

"But," inquires one of the pupils, "is the powder in the anthers of some use to the plant itself?"

T. Yes, my boy ; without it the plants would never be able to produce any fruit. We would not get any apples, nor pears, nor strawberries, nor corn, nor any other fruit or seed.

P. That is curious. Can you tell us how the powder causes plants to produce fruit and seed?

T. Yes, I can in some measure. Do you see here in the midst of the lily this neat column? Well, this column is hollow down to the bottom of the flower ; and it stands upon a kind of nest, here. Now let us open that singular little nest, to see what may be in it. Here it is, full of little eggs, looking like grains. These grains grow to seeds, when the powder contained in the anthers comes to them ; if it does not come, they die. The dust or powder falls upon the column, which sucks it down upon the eggs ; they then grow and make seeds. That column is called *pistil*, and the flat and knotty upper part is called *stigma*. Well, there are many names now written on that tree. I will find out to-morrow who knows them the best. Now jump about for a little while.

Bethany, Va., Jan. 10, 1863.

Ohio Monthly.

SUPERFICIAL EDUCATION.

It is the plain duty of every public teacher, both as a moralist, and as an earnest lover of his art, to search for the causes which tend to degrade the manners, or retard the progress of his pupils. Not that the teacher is an infallible critic, or that faults are wanting to the profession; so far from this, many who essay to teach have scarcely learned the elements "of the art of teaching well." For aside from a knowledge of the branches taught they need experience. Experience is the grand schoolmaster of the world, and none have greater need of his tuition than they who attempt the training of youth.

Every successful teacher has, in the course of his teaching, seen so much to change and correct in his own theories that he will never regard himself as perfect. Thus, in every discussion intended to elevate the aims or improve the methods of our fellow laborers, we ought to advance our opinions with modesty, and to listen to others with becoming deference. The proper discipline and culture of youth is no idle or irresponsible task. The child-mind, impressible as the potter's clay, readily yields to the forming influence of a master hand; and the outlines of a character thus early sketched in deeply graven lines, all the tide of coming years shall not wash away.

How encouraging is this thought to the teacher, that however lowly his position, or insignificant his salary, his mission is fraught with importance deep and stirring as life, lasting and beautiful as heaven.

But I propose to follow another line of thought, perhaps less inviting, but, as I am pursuaded, not less worthy of attention. Almost every experienced, intelligent teacher has adopted some special notions of his own concerning the best manner of giving instruction — or of *teaching*, considered as a whole.

Thus, upon entering a new field of labor, it is curious and interesting to notice the "peculiarities" of those who have preceded us, and left their impress upon the school.

It may also be highly profitable to compare the methods of others with our own, and after thorough, impartial examination to adopt that course which seems wisest and best, or likely to secure "the

greatest good to the greatest number." In such examination the practical outworkings of any given system may be considered the measure of its value. This is a faithful saying, worthy of all acceptation, "Know the tree by its fruit."

It has been my experience to notice that teachers are too often contented with a low standard of scholarship, and allow the pupil to advance through the book, flattering himself that he has mastered a science with whose very elements he is unfamiliar. This is most surely a serious mistake. For in thus taking for granted that the acquirements of the scholar are sufficiently well founded and thorough, the teacher cheats his pupil, and encourages him to cheat himself, while the parents or guardians of the child are most of all cheated, by the story of his wonderful progress. Verily, this illustrates how "a little learning can be a dangerous thing." For in after years, when this superficial process is completed, and the individual enters the lists of active, business life, he will be weighed in the critical balances of keen practical men, and be found sadly wanting. Nor will his chances be better if he tries to tread the more difficult and secluded paths of literature. The baseless fabric of his education when jostled against the stern truths of science, or pressed by the added responsibilities of a high position, will crumble and sink into insignificance; leaving but a tottering frame-work to disfigure the site a better architect might have adorned with a noble and enduring structure.

The world is full of men and women thus superficially and *uselessly* educated. They talk much, and do little. They are all show, and no substance. Like the fabled beast in the stories of Æsop, they continually strive to appear "lions," but alas very frequently their disguise fails them; even while they seek to speak profoundly "*aures eminebunt.*" If you converse with these people you must be very careful how you draw aside the frail curtain which hides their defects. In exploring the mysteries of science do not lead them into deep water, they can neither wade, nor swim, for their life is a "shallow pool with small circumference, sandy shore, and slimy bottom." This lamentable ignorance may, in a great degree, be traced to the unfavorable training of earlier years, the legitimate fruits of which may be seen in careless, if not reckless, habits of thought and action. In view of these startling

facts, is it not time for us as teachers and parents, to enquire of the youth committed to our hands, not how much have you acquired, but how *well?* Not how far have you progressed, but how *thoroughly?*

A whole volume might profitably be written upon the evils which arise from an unsubstantial and insufficient education. Who can tell how many of the false theories and fickle practices, which invade every circle of society, which weaken every system of morals, and affect every school of politics, are due to this? I believe that one of the chief causes of the gigantic rebellion which threatens to-day our national life and unity, may be found in a false system of education, which has dwarfed the judgment and warped the morals of nearly half the nation. Again, the fact that the pupil's mind is but poorly stored with items of useful information is not all, nor indeed the greatest objection to this style of education. It forms a habit of surface-thinking which leads the individual to hasty and ill-advised conclusions. That is, he is satisfied with an opinion formed by too casual and careless observation. Every intelligent educator knows that it is not mere knowledge, considered as a "bundle of facts," which should be chiefly sought in a course of study; but rather that enlarged and generous culture of the mind which shall discipline, strengthen, harmonize, and refine all its forces. Thus the mind will not only become a storehouse for the good thoughts of others, but an exhaustless mine, whence we can ourselves quarry out brilliant and precious gems of thought. But in all this we shall be seriously impeded, if we indulge the habit of surface-thinking or careless, superficial observation.

No teacher can be long or eminently successful who does not understand human nature. For the school, like the "city," is "a world within a world," inasmuch as it furnishes to the practised eye a faithful representative of every class of society, and every grade of intellectual capability. The first office of the teacher, then, is to "label" and "classify" his pupils. Not that he shall be partial to those who are superior, but, for the very opposite reason, that he may be impartial, as will be shown in meting out to each such mental nourishment as his mind is by nature and cultivation fitted to receive. Thus he will be able to give each what

he most requires to supply his deficiencies; just as the minute lacteal vessels in the animal economy absorb from the blood such nourishment as is needed for the organs they represent. Many teachers fail by neglecting to apply this principle.

Who of us can tell how much of the obtuseness and negligence manifested by certain pupils in every school might be overcome by some undiscovered method, which would elicit their attention and give them an interest in studies hitherto neglected? How many of the "mischievous tendencies" which have vexed us, might be corrected and turned to good account under a system of "checks and balances," which we have never applied? These subjects claim the earnest attention of every instructor of youth who would become a "proficient" in the art, and exert a healthful influence upon those committed to his care.

As teachers, we are under solemn obligations to God and humanity to follow our highest convictions of duty; let us see to it that we are not "blind guides," for, if the light in us be darkness, we shall serve but poor purpose illuminating the way of others.

A. M. G.

THE SWEET SOUTH WIND.

THE sweet south wind has come again,
From the sunny southern shore;
And our hearts leap up at its fragrant kiss,
As they never did before.

For it toys with the locks of our loved ones' hair,
As they march through the southern land;
It has smoothed their brows with its fingers fair,
As they sleep on the southern sand.

It brings to us many a whispered prayer,
And many a stifled sigh;
And we catch the sound of our own pet names,
As it passes fragrant by.

It has sighed o'er the graves where our loved ones sleep, —
Those graves we never shall see;
O sweet south wind, do the night dews weep
O'er our martyrs of liberty?

It brings to our listening ears the shout
Of slaves that are now made men!
O sweet south wind, swell the echoes out,—
Let us catch the sound again!

O sweet south wind, ere long thou shall blow
O'er a land where all are free;
Thy echoes shall ring, as they did of old,
To the Anthem of Liberty! E. H.

REQUIREMENTS FOR ADMISSION TO COLLEGE.

THE amount of preparation necessary for admission to our various colleges, has been, during the past few years, considerably increased. The object of such increase is, obviously, to have the student well grounded in the elementary branches of knowledge, that he may be better prepared to enter upon the college curriculum. Such a preparation, of course, will give a higher standard of scholarship to the college; and will enable the student the better to master and appreciate his college studies, and to profit thereby. But we question whether the desired object has been fully attained. We do not think that this increase of requirement has resulted in raising the actual qualifications of students, in a corresponding degree. Fitness for admission to college does not consist so much in the extent of the student's acquirements, the number of branches or volumes he has studied, as in the thoroughness of his preparatory work.

The standard for admission is by no means the same in all colleges. Some require much more than others; and in different institutions the particular studies prescribed are also materially different. This last-named consideration, however, is of no very great consequence, inasmuch as equivalents for prescribed branches are generally accepted. But in regard to the amount of preparation, or the number of branches, it seems to us that it is certainly desirable that colleges should adopt standards nearer the same than they now are. Most students, at the outset of their preparation, shape their course for admission to some particular college, and confine themselves, as is highly proper, to the course prescribed for ad-

mission to that college. But it often happens that a student, not long before completing such preparation, changes his plans and proposes to enter another institution. Now, if such institution requires any considerable amount more than the one for which he has been preparing, it becomes in most cases an impossibility for the student to meet such requirements, without adding another year to the time for preparation; and that is an inconvenience to which few are willing to submit. There is an impression prevailing quite generally, that in some of our colleges, whose endowments and popularity attract to their halls all the students they can accommodate, there is a tendency to render admission to their fold more and more difficult; while some of the younger and feebler institutions, whose members are few, are inclined to lower the standard and be less particular than their more flourishing neighbors. This, we admit, seems very much like the political economy of many kinds of business; but it is hardly fair for the student, and certainly does not promote harmony among our literary institutions, nor does it advance the cause of learning.

At one of our oldest New England colleges, for which many who will read these pages are engaged in preparing young men, the standard of admission seems to us disproportionate. There can be no reasonable objection to the amount of preparation required there in the English branches; and the same may be said of Greek. But in Latin we believe the amount is too great to secure that thoroughness necessary for the successful pursuit of the college course. We are not pleading for a curtailment of Latin to secure for the pupil an earlier entrance to college. Our boys are now quite too young when they go there. We would have them read less Latin, but read it more thoroughly than they now do, or than they can where so much must be read in the time usually devoted to the preparatory course. The gain in thoroughness would be of incalculable advantage to the student, and would render college instruction easier and more successful.

The requirements in Latin at that college are substantially as follows: The whole of Virgil; the whole of Cæsar's Commentaries; Cicero's Select Orations (eleven in number); Latin Grammar, including prosody; and considerable proficiency in writing Latin.

Now, if from this list we deduct the third and fourth of Virgil's Georgics; the last four, perhaps six, books of the Æneid; three books of Cæsar, leaving four; and four of Cicero's Orations, still leaving seven: can such deduction in any way impair the student's fitness for admission to college, provided the time saved thereby is devoted to a more thorough reading and review of the Latin already read? The time necessary to read the portions thus proposed to be omitted would be at least one year; and every lover of thorough Latin teaching knows how much might be accomplished in that time, by giving more attention to writing Latin; to parsing and analysis; to prosody, with which few who enter college are sufficiently familiar to appreciate the verse of Horace, and other authors read there; and to frequent, *rapid* reviews of Cæsar, Virgil, and Cicero. Such frequent and rapid readings are absolutely necessary to appreciate the style, thought and real spirit of a Latin author; and those who do not practice them may read much Latin, and still be a stranger to the beauty and richness of the Roman tongue.

We believe some such modification of the requirements in Latin would result in no loss; but rather in a clear gain to all concerned. That a similar conviction prevails among many engaged in preparing young men for college, we are very sure; and we are unable to conjecture upon what grounds any college faculty would object to such a modification. A. P. S.

HOW TO TEACH CHILDREN TO LIE.

Two ladies and three little children entered the railroad station at A——. The youngest was a rosy-cheeked little boy, apparently between three and four years of age. "We 'll have a nice ride in the cars, won't we, Harry," said one of the ladies, taking him up in her arms and brushing the dark curls from his forehead. His face, all rosy before, lighted up with new joy at the prospect of a ride in the cars. "Me will," he said, and clapped his little hands in glee. "Give sisters a kiss and bid them good-bye; the cars will come in a minute or two."

"Shan't you want to see mamma?" asked the other lady. "No," said the little fellow, as he stretched his head out of the window to see if the cars had not come.

A gentleman entered and going up to the group, said, "Good-bye, Harry; kiss papa, before you go away. Now have n't you one to send to mamma?" So the cherub lips gave one full of truth and love for mamma, though to the oft repeated questions, "Do you not want to see mamma?" and, "Shall you not want to see papa and sisters?" he bravely shook his head and answered, "No."

We thought, when he came to say his prayer that night, he could say, as another did, with quivering lips, "Seems to me I want to see mamma." But now his little heart is full of joy, and how easily filled!

The gentleman spoke with the ladies a moment, kissed his little boy again, saying "Good-bye, Harry," then, to the other children, "Come." They went out, and he helped them into the carriage. Presently he came in, and stretching out his arms, said, "Now Harry," whose sparkling eyes showed *his* thought was, "now I am going to ride in the cars." But that elated, trusting little heart had been deceived. His father put him into the carriage with his sisters. He testified his grief by screams and tears; ours was less manifest but not less genuine. Little Harry will be cautious how he trusts papa again.

The other day we saw, at a distance, two little children playing in the rich, green grass. Coming nearer, we found they were running from dandelion to dandelion to see who would get the golden head first. Mary was a little older than Willie, could run faster, and would oftenest get it. But Willie's ringing laugh was almost, if not quite, as loud when Mary reached it, as when he caught a nearer one himself. Just as they were shouting over a new found treasure, Willie's father came from his work for his supper, and wanted his little boy to go into the house with him. He stopped a little distance from the children, and, holding a pair of compasses, which he had in his hand, up to his face, called to Willie, "Come and see what a pretty thing I have." Willie ran to him, and just as he came near, his father sprang forward, caught him in his arms, and, laughing at the child's struggles and cries,

carried him into the house. This was the second time that day that he had deceived little Willie in this manner.

This course will not need to be continued long, before the tongue will be swift to tell lies. N.

A GENERAL EXERCISE ON ASTRONOMY.

We are surrounded by what we do not understand. Learned men have made many discoveries indeed, but these discoveries, compared with what is still unknown, are but as a drop in the ocean. The chemist, after having examined and taken to pieces parts of the earth and of everything which he sees around him, feels this, and says to himself, "How little I know! How much is yet to be learned! I cannot tell, after all my labor, what this, of which the earth, trees, rocks, and streams are composed, really is." The geologist, who, by carefully examining the rocks, can tell you that long ages have been consumed in making this earth what it is, that races of creatures, far greater than any which now dwell upon the globe, and differing from them, formerly inhabited it, cannot tell you of much beyond the surface, and can only presume that the inner part of it is in a melted state. And although astronomy, that science which treats of the heavenly bodies, the sun, moon, planets, etc., has been studied during many hundred years, we have comparatively little information concerning the vast numbers of worlds which we know exist. Astronomers, however, have discovered much that is interesting and wonderful. Of a few facts connected with astronomy I shall say a few words.

As we look upon the moon, we see that at certain times it is round and large. It is then called the full moon. At other times it is crescent-shaped (illustrate and explain), at still others it is called gibbous, (illustrate) Why is the appearance of the moon different at different times? Is it a flat body or not? You know that the earth is nearly round and that it turns about the sun. The moon is also nearly round and turns about or revolves around the earth. Its different aspects are caused by the different ways in which the light of the sun strikes it. (An extended explanation.)

On a bright "moonlight" night, spots on the surface of the moon are very plainly to be seen. It was formerly supposed that these dark spots were land, and the bright part water, but astronomers say that if either is water it is these dark spots, while the light part is land. It is, however, generally supposed that these dark spots are caverns. There are more than one hundred, the large ones having flat bottoms, from which rise small, steep, conical hills. What their use is, we cannot tell. When we know that in order to be visible, any artificial structure on the moon's surface must be one mile in length, and also in height, and when we think that the height of the pyramids of Egypt is only one-sixth of a mile, we see the impossibility of ever recognizing any such edifice. Moreover, if we had a telescope ten times as powerful as any which has yet been employed in examining the moon, it would be impossible for us to catch any glimpse of any inhabitants.

Astronomers have found no water here. Could human beings exist without this?

It may be that the moon is entirely uninhabited, or that it is preparing for its inhabitants, in the same way in which the earth was fitted for the coming of man. It seems to be of a highly volcanic character. Would this be an argument for, or against, the supposition that it is being made ready for living possessors?

There are also mountains in the moon which rise to the height of five miles. Some of the most remarkable valleys are four miles in depth. What is the height of the highest mountain on the earth and how does it compare with the height of the highest mountain in the moon? A day at the moon is equal to about fifteen of ours. So long an exposure to the sun's rays must produce a great degree of heat, especially at the equator, and so long an absence great cold, particularly at the poles. To a spectator, to whom the earth is in view, it must seem like a great orb, thirteen times as large as the full moon and giving thirteen times as much light. It would appear clouded with spots, while our seas, mountains, etc., would present a diversified appearance, though they would not be distinctly visible.

When we look at that great something which gives us light and heat by day, we wonder what it is. Is it a body like the earth and moon, placed in such a situation as, in some unknown manner, to give

us light, even as we may perhaps give light to some other body? Or is it really a mass of burning matter? If so, what burns? What supplies the food for this immense conflagration?

It is not exactly known of what the sun consists. That the temperature is many times as hot as that of the earth, is amply proved. It is at least five hundred thousand times as hot as red-hot iron. When viewed through powerful telescopes, the surface of the sun is seen to have large spots upon it. These spots do not remain all the time. They change from day to day, and even from hour to hour. Sometimes they divide into two or more. Sometimes, too, large spots suddenly close, their sides advancing towards each other at the rate of a thousand miles a day. Then, in the neighborhood of great spots, and branching from them, are streaks, between and among which, if they do not already exist, spots appear. These seem like the ridges of great waves. These last facts seem to indicate that the sun is a mass of liquid and molten matter. But what are these spots? Some have said that they are the tops of mountains. Herschel maintained that the sun is surrounded by a luminous (illustrate and explain) atmosphere, in which are contained its light and heat, and which, in some way rent, discloses the dark background of the sun. Neither of these suppositions seems very probable. Others have thought there might be an electric current in those regions of the atmosphere, and that there might be some similarity between the rays of the Aurora Borealis and those of the sun.

If we watch these spots we shall see them, starting from one edge of the sun, cross it, and disappear at the opposite part. This motion is not the same at one moment as it is at every other, — as it would be, if it was the motion of bodies passing between the earth and the sun, — but irregular or variable, being swift in the middle and slower at the borders. These spots sometimes disappear in the course of a single passage across the sun, and again re-appear, one group having been observed in 1840 to return eight times. This and one or two other facts prove something of the greatest importance — the revolution of the sun on its axis.

The sun is only one-fourth as dense as the earth (explain). Its distance from us is 95,000,000 miles. The only approach which

we can make towards forming any idea of this distance is by considering the time which a rapidly-moving body would need to traverse it. A railroad car moving at the rate of 20 miles per hour would be 500 years in reaching the sun. When we look out upon the starry heavens, and reflect that many of these thousands of stars are suns with worlds of their own, of which we know little or nothing, let us perseveringly try to unlock the mysteries which lie about us, remembering that God helps those who help themselves. T.

A METHOD OF TEACHING ALGEBRA.

In all instruction there are two thing to be considered, the teacher and the text-book. So overwhelmed are we with school-books upon all subjects, that it is almost impossible to select from the variety that offers, and therefore, at first thought, this seems the greater consideration, and the teacher occupies but a secondary place. In reality, however, if the teacher is, in the truest sense, an educator, the treatise used is of comparatively little consequence, while, with one unfitted to his work, the best book, like a well tempered sword in unskilful hands, does but little execution.

Especially is this true in mathematics; questions well put in the class-room, do more to awaken thought than the most elaborate written suggestions. Books upon arithmetic well prepared, are to be found more easily than in any other branch of this science. Perhaps little more, at present, need be asked for than the work by Dana P. Colburn, and the full analyses there found would awaken any teacher, who has any natural fitness for his work, to some effort to lead his pupils to think for themselves, and to exhaust the power of arithmetical investigation.

We have not yet, in the province of algebra, any treatise taking the same place as a text-book for high schools and academies. Teachers must, therefore, supply the deficiency in the class-room. Is there not too little effort made by teachers to explain and illustrate the peculiar character of algebra as an instrument of investigation; and, in that division called Algebraic Operations, is there

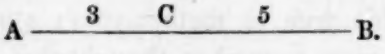
not too much reliance upon rules for arriving at a correct result, aided by the printed answers?

It is frequently found in a class gathered from various places, having studied under different teachers, that very few will be able to go through an explanation of an example in subtraction or multiplication, or even to arrive at the result except by the aid of the rule. Not long since a young gentleman, who has been quite successful in the study of mathematics, remarked that he was first led to think independently by his teacher's saying to him, as he was giving the rule for algebraic subtraction, "Let the rule go; give the reason."

The double sense of the algebraic signs + and —, arising, it is true, from a single idea at first, seems to be overlooked in most text-books, and not infrequently by teachers too. Hence, perhaps, arises the difficulty of explanation independent of the rule.

Take, for example, the quantity $5x - 3y$ to be subtracted from $7x + 5y$, thus explained: if $3y$ were subtracted from $5y$ the result would be $2y$, since $-3y$ is a quantity exactly the reverse of $+3y$, the effect of its subtraction must be the reverse, therefore, if subtracting $3y$ diminishes $5y$, the subtraction of $-3y$ must increase $5y$ as much as it would be diminished in the first case, and the result would be $8y$.

The same thing may be more fully illustrated by a line thus:



The line A B may represent an indefinite quantity; assuming some point as C, at which you begin to measure, all distances from C to A are minus quantities, while all from C to B are plus quantities. Measuring from C, in the direction of B, 5 inches, and from C, in the direction of A, 3 inches, it is clear that the difference between the points 3 and 5 will be the numerical sum of the measures, and the sign which the sum should have will depend upon whether you go from 3 to 5 in the plus direction, or from 5 to 3 in the reverse direction.

There is, in many text-books, quite an unnecessary amount of addition, subtraction, multiplication, and division to be performed, and teachers are partly at fault for this excess. Said a teacher in one of the larger New England cities, not long since, speaking of

the best treatise on algebra for school use, "It is too scanty in examples in addition. A dull boy feels as if he was accomplishing something, if he has a slate full of examples." It, evidently, is no gain in educating a boy, that he should feel as if he is accomplishing something, when he is working only by square and rule, without much thought about what he is doing.

If one would lead a boy to think, by the study of mathematics, is it not better to give him a problem to solve, than to keep him finding the sums of quantities by rule? If a rule were never allowed to be given in the class-room, a great advance would be made in the teaching of algebra, and a still greater if pupils were required to give a lucid explanation of every operation, going quite below the surface, into the principle which underlies the work.

Take, for example, the following:

$$2x+\tfrac{x}{3}-7=x+9.$$
$$6x+x-21=3x+27.$$
$$6x+x-3x=27+21.$$
$$4x=48.$$
$$x=12.$$

The solution of this should be thus explained: Free from denominators by multiplying both members by 3, since multiplying equals by the same quantity the equality is not destroyed. Collect the known quantities in the right and the unknown in the left member of the equation, by adding 21 to, and subtracting $3x$ from both members, since, if the same quantity be added to or subtracted from equals, the results will be equal. After uniting terms, to obtain the value of x, divide both members by 4, as, if equals be divided by the same quantity, the quotients will be equal. Such constant reference to principles simplifies the work and makes it attractive.

It is an excellent exercise to have a class form equations without going on to the solution. If any teacher were to desire a greater number of problems of the first degree than any treatise contains, that might be considered a reasonable request. The thought required in the formation of two or three equations, is more valuable to develop mental power, than any number of slates full of examples in addition. It is a good exercise for a class, to present

problems which are not found in the book used in school, and require a solution in the recitation hour. Some of the time spent in grammar schools in combinations in arithmetic, might be profitably employed in this way.

And just here great care is needed on the part of the teacher, that the pupil understands exactly how he forms an equation ; that each step in the process is clearly represented upon the board ; and at last, before the writing of the equation itself in due form, each member should be written separately equal to something expressed in words, which should be identical for the two members. Take, for example, the problem : The sum of two numbers is 40 ; if the greater be multiplied by 3, and the less by 5, the difference of the products will be 24 ; which should be written thus :

$$x = \text{greater.}$$
$$40 - x = \text{less.}$$
$$3x = \text{greater} \times \text{by 3.}$$
$$5(40 - x) = \text{less} \times \text{by 5.}$$
$$3x - 5(40 - x) = \text{difference of products.}$$
$$24 = \quad " \quad " \quad "$$

Then, stating the axiom, that things equal to the same thing will be equal to each other, he is ready to write the equation :

$$3x - 5(40 - x) = 24.$$

If a pupil can write the process of thought in any equation he succeeds in solving as fully as this, he will not need more teaching with regard to the formation of equations. He may be left to work independently.

That pupils are able frequently to arrive at results in particular cases, while they cannot give the train of thought by which the end was reached, many teachers can testify.

As it is claimed by lovers of mathematics, that the study of algebra gives clearness of thought, while this is often denied by its opponents, it is to be desired that a fairer trial than has yet been given it, may prove its title to such excellence as an instrument of education, or may lead us to bestow upon other subjects the time which is now too often wasted upon the solution of equations, whose original former has long since disappeared from the school-room, where his works are handed down upon the worse than blank pages of the text-book in use, thus saving his successors from all wearisome exercise of the brain in real thinking. E.

Resident Editors' Department.

CRITICS AND CRITICISM.

A FAIR correspondent in Canada sends to the Department sundry criticisms of sundry matters, which for her sake, but more especially for the sake of teachers in general, we cheerfully insert, reserving the right to criticise the criticism as we think proper:

"MR. EDITOR: Do urge upon teachers the importance of refined habits. I once paid a visit to a public school in Boston. The principal wished me to hear an advanced class recite in natural philosophy. He took a chair on the platform before them, tipped it so that it stood on the back legs, crossed one leg on the other, and placed one foot on the desk, at which was seated a young lady. His boot was not far from her face. By his side was a spittoon, — for he used tobacco freely. For my part, I was soon sickened.

I called once at a Normal School in Boston, and by mistake was shown into the *hall* where the young ladies hung their hats and shawls. On the window-bench lay a dirty fine-tooth comb, with a fourth of the teeth wanting. But my surprise ceased when I saw the principal, whose mouth was stained with blackberries, her nails and hands unclean, etc., etc.

Surely the refinement of cleanliness every teacher should consider indispensable.

Teachers are respectfully and earnestly requested by the Department to consider the importance of refined habits. It is true there may be a great deal of difference of opinion in regard to what constitutes refined habits; but in order that there may be no possible excuses, we submit a few rules deduced from the communication of our fair correspondent:

1. Do not tip your chair so that it shall stand on the back legs.
2. Do not cross one leg on the other.
3. Do not place one foot on a desk at which is seated a young lady.
4. Do not have a spittoon by your side.
5. Do not chew tobacco.

[N.B. — We remember the decision of a number of ladies, who voted that smoking was rather refined, while "chewing" was decidedly vulgar.]

6. Do not leave a fine-tooth comb with a fourth of the teeth wanting in the dressing-room. Visitors may enter there by mistake, and report it.
7. Do not eat blackberries.
8. Do not touch the blackboards, inkstands, or other unrefined "properties" of the school-room — they may soil your hands.
9. If you visit a school, and are invited to hear a recitation in natural philosophy, see if there is a spittoon in sight, ascertain whether the teacher uses tobacco, observe the condition of his hands, find out whether his nails are in good order or

not, and above all, satisfy yourself whether he had blackberries for dinner. Never mind the exercise in natural philosophy: that is of no consequence.

10. When you discover unrefined habits in others, go home and read Dean Swift's "Lady's Dressing Room" before you publish your strictures thereon.

A thorough study and practice of these ten rules will set you all right — in your own estimation. But, in connection with this important topic, several observations occur to us.

1. If one-fourth of the teeth of that fine-tooth comb were wanting, either the mice had gnawed them out, or the implement had been diligently and faithfully used. Perhaps it is not refined to use a fine-tooth comb; but we have seen persons whom we could conscientiously implore to sacrifice their refinement to their feeling of "humanity to animals."

2. In the absence of any information in regard to the quality of the recitation in natural philosophy, we are unable to form a correct judgment in regard to the "principal." De Quincey took opium; Carlyle smokes a pipe; Abe Lincoln puts his feet on the table; Albert Edward smokes cigars. Need we say any more of them? Of course they are already condemned. Carlyle and a tipsy celt stand on the same level. Abe Lincoln and the "principal" are unrefined; so is Albert Edward.

3. Which would be the more refined, to expectorate on the floor or have a spittoon? — whether the individual use tobacco freely or is a consumptive?

4. We agree with our fair correspondent, that several of the peculiarities mentioned in her note are not evidences of refinement; but we object in the most decided manner to the character of her remarks. Our readers are to get their ideas of the principals of Boston schools from a fling of this kind. The principal alluded to may have been a Christian gentleman, a thorough and efficient teacher, in spite of his failings — for they certainly were failings, if there is any truth in the story: a similar one was told twenty years ago. We sat at table, in Montreal, once, with an English colonel, whose manners were very unrefined; yet he was an old hero, and we honored and respected him in spite of his dirty collar and his "slobbered" beard. We did not even sicken. We have seen Gen. Sam Houston suck an orange in company, but we could not forget that he was the hero of San Jacinto. We object to parading a man's small faults before the public, while his zeal and fidelity are diligently kept out of sight. We object to considering the Prince of Wales a young rowdy because he smokes, and young rowdies smoke. We like the cant saying better, — "He is a good man — pity he drinks."

Who is Carlyle? A filthy smoker! If you answer an uninformed person in this manner, you convey a false impression. Who was Napoleon? A libertine! Who was Byron? A drunkard! All these answers, we humbly submit, are falsehoods. Half the truth is a lie. So is expressing a person's character with a caricature of his failings.

But this leads us to introduce another communication from our fair correspondent, which we heartily indorse, and whose letter and spirit we affectionately commend to the attention of the fair writer and all our readers:

MR. RESIDENT EDITOR: I have just read with great pleasure your remarks on "Teaching Children to Lie." May I add a suggestion?

Young teachers are often told, — "It will not do for you to do this or that, because you are a teacher." I claim that a teacher is a man before he is a teacher. It is proper for him to do anything that any other Christian gentleman may do; and this continual inculcation of "Don't let your scholars see you do that" tends to form a mean character. A scholar may know that a teacher has faults, and it will do him no harm; but it is an injury to be under the care of a teacher who is a sham.

MIDDLESEX COUNTY TEACHERS' ASSOCIATION.

THE Twentieth Semi-Annual Meeting of the Middlesex County Teachers' Association, was held at Mechanics' Hall, Lowell, on Friday and Saturday, April 3d and 4th. Geo. I. Littlefield, Esq., of Somerville, presided. Rev. Mr. Street of Lowell, tendered a cordial welcome to the teachers in behalf of the authorities of the city, and also extended the hospitalities of the citizens. He paid a merited compliment to the faithful corps of teachers of Lowell.

The President responded, in behalf of the Association, in his usual felicitous manner.

Wm. J. Rolfe, Esq. of the Cambridge High School, delivered a scholarly lecture entitled "The Teacher and the Poet."

This admirable paper will be remembered by those who listened to it at Taunton, at the meeting of the State Association in 1860.

On Friday P.M. the topic, "Moral Education," was discussed by Messrs. N. T. Allen of West Newton, Cephas Brigham of Auburndale, Professor Marshall of the Board of Education, etc.

The views of the speakers seemed to be nearly unanimous in favor of moral instruction in the Public Schools, not by fixed exercises, but by special teaching, as the circumstances and condition of the school might demand.

In the evening the Association was favored by a lecture from Geo. B. Hyde, Esq., Master of the Everett School, Boston. This concise and well-digested paper contains the *true principles* of a correct and progressive, intellectual and moral culture.

After the lecture brief addresses were made by Messrs. Sheldon of W. Newton, Joseph White, Secretary of Board of Education, and Knapp of Somerville.

On Saturday morning the election of officers for the ensuing year was in order, and Geo. N. Bigelow of Framingham was chosen President, and Cephas Brigham of Auburndale, Secretary and Treasurer, — together with the usual number of Vice-Presidents, and a Board of Directors.

The Secretary read an interesting and well-written essay contributed by a lady member of the Association.

Valuable suggestions were made by Messrs. Buckingham of Brighton, Bigelow of Framingham, etc., on ventilation. A spirited discussion followed on the topic, "What are the best methods of securing the attention of pupils in recitation?" Messrs. Adams of Newton, Russell and Chase of Lowell, and others suggested the methods considered best adapted to secure the desired results.

Mr. Brigham of Auburndale offered a series of resolutions, tendering acknowledgements to the citizens of Lowell, to Committee of Arrangements, and to the railroad company for reduction of fare, which were unanimously adopted.

At twelve o'clock the Association adjourned.

The meetings were exceedingly interesting, and there was a large attendance from all sections of the county.

REPORTS ON THE COMMON SCHOOLS IN THE STATES OF MASSACHUSETTS, OHIO, AND ILLINOIS.

It is astonishing to see what an amount of deprivation and suffering may be endured without much pain or complaint, and how many blessings and privileges one may enjoy without a reasonable amount of appreciation and gratitude, if one has become accustomed to the one or the other. Thus our system of free schools is treated by the majority of the people in the free States and the Canadas as a matter of fact, and the terms "liberal education," "excellent teacher," "free schools," etc., have become so common, that they now but very inadequately express the full meaning; while in Europe, — nay, even in Germany, single features of our school system, for instance, non-confessional schools, defraying educational expenses by general taxation, supplying poor children with books, are looked at as an Utopia, not soon, if ever, to be reached. The annual school reports, laid in printed form before the legislatures of the free States, and liberally distributed among those who show an interest in them, are to be counted among these gifts. Massachusetts has published already 26 such reports; Ohio, 9; Illinois, 4 (biennial); New Hampshire, 16; Maine, 9; Kansas, 4; Connecticut, 17; Pennsylvania, 28; Rhode Island, 17; and Vermont, 6. They all contain a great deal of information, have done their share in awakening public sentiment and directing it to the cause of educating the young. They are not yet what they should be, or will be. Statisticians complain of the difficulty of finding reliable information on certain points, in reports from different States, business men wish these documents less voluminous, and well educated teachers find in them more the records of progress made and the reflection of public feeling, than a fountain of educational lore. Again, there is a sameness of form in reports from one and the same State, which makes the new report appear to the eye of the reader like an old friend, while it must — at least to some extent — quench the spirit of the author.

The following summary of statistics will afford a general view of the condition and progress of the common schools for 1861–2; the first number relating to Massachusetts, the second to Ohio, and the third to Illinois; the increase over the preceding year being marked by +, the decrease by —.

Number of public schools, 4,605 (+14), 15,152, and 9,811 (+480); number of scholars of all ages in Massachusetts during summer, 223,218 (+10,432); during winter, 227,319 (+7,309); — in Ohio, males, 224,451; females, 208,891; total, 433,342; — in Illinois, males, 267,680 (+5,506); females, 248,357 (+27,387); total, 516,037. Number of teachers in Massachusetts during summer, males, 472

females, 4,856; during winter, males, 1,508; females, 3,886; different persons employed during the year, males, 1,580; females, 5,675; total, 7,255; — in Ohio, teachers, males, 10,459; females, 10,931; total, 21,390; — in Illinois, males, 7,713 (—297); females, 7,381 (+665); total, 15,094. Average length of public schools in Massachusetts, 8 months and one day. Average wages of teachers per month, including board, in Massachusetts, males, $45.38 (—$2.33); females, $19.35 (—$0.60); — in Ohio, Common (Grammar) Schools, males, $26,35; females, $15.32; High Schools, males, $34.04; females, $15.32; Private and select schools, males, $36.39; females, 17.25; — in Illinois, average salary, males, $25.00 (—$3.30); females, $16,03 (—$2.62); highest salary, males, $160.00; females, $50.00; lowest salary, males, $7.00; females, $5,00. Expenses for schools: in Massachusetts, exclusive of repairing and building school-houses and the cost of school-books, $1,635,626 (+$22,802); — in Ohio, teachers' salaries, $1,900,878; sites, buildings and repairs, $335,894; fuel and other expenses, $264,295; total, $2,501,068; — in Illinois, teachers' salaries, $1,315,686; total expenditures, $2,007,312 (—$88,143). The School Fund of Massachusetts is $1,584,165; of Ohio, $2,879,379; and of Illinois, $4,973,842.

The Massachusetts report gives a fine statement of the condition of our public schools. The Normal Schools are full, but labor under the disadvantage of being expected to fit the best teachers, while the pupils, when admitted, are often deficient in the rudiments. The Secretary makes several valuable suggestions with regard to the State scholarships. His suggestion that students who have enjoyed State aid should be required to attend a State Normal School not less than one term, is in the right place. In Prussia, every Protestant minister, before he is allowed to accept a call, must have attended a Normal School for at least six weeks. How many more hard blows will have to be inflicted upon the district system, before it is ready to give way, is difficult to say. Arguments seem to be exhausted. The report of the agent will be read with profit by teachers and parents. The abstracts from school committees' reports cover 284 pages, and contain much that ought to be known and done, many valuable ideas repeated and expressed in the greatest variety of words, a great deal that is local, and little that is really original. We doubt the propriety of claiming the secretary's valuable time for making an abstract which presents such promiscuous matter under local heads. Those who use and read the reports hardly want these truisms, and those who want them do but seldom see the reports.

The Ohio report is embellished by two engravings of colleges, and contains a fine record of five thousand teacher-soldiers, who, in the camp, on the march, and in the hour of battle, have been true to their country, as patient, as enduring, and as brave as the best of our troops. Ohio may justly be proud of these her sons. Very many of them are line officers, each of whom is fit to command a regiment. The State Commissioner had addressed letters to the prominent teachers of the State, in order to get their views with regard to the number of leading studies which might simultaneously be attended to. The answers are instructive. While some regard the present way as the best, others favor a limited change, and the rest desire a great reduction of the number of leading daily studies. An article on the female seminaries of the State, shows Ohio probably stands first in the number and excellence of its schools designated exclusively for the education of female

youth. The buildings of 22 such institutions are worth $861,000; endowments, exclusive of buildings, $30,000; value of apparatus, cabinets, etc., $17,000; volumes in libraries, 26,929. The opinions of the school commissioner upon the school law published during the past year, and several articles by the same author, on topics which interest teachers, close the volume.

The report of the Hon. Newton Bateman relates exclusively to practical matters relating to the State. Illinois, in the formation of her school system was not fettered by usages and old laws; and availing herself of the experiments and teachers of older States, with her large school fund, had an easy start. An attempt to give a synopsis of this report would, we fear, prove a failure. Those who have time and desire can read the original valuable document.

A WORD ABOUT COMPOSITIONS.

"CORRECTING compositions is the most irksome and tedious of all the duties that school requires. It could be tolerated, and indeed there would be positive pleasure in it, if the results appeared to justify the labor. But not so. For the very errors that have been a hundred times corrected continue to appear in each composition passed in for examination."

Thus have teachers been heard to speak. And doubtless many teachers have experienced just such trials. To all who have, we desire to recommend the following course, which we have pursued with pleasing success. Let the teacher carefully examine each composition and note the mistakes, and instead of making the changes himself, enclose each error in marks of parenthesis, or mark it in some other way, and pass it to the scholar, requiring him to make the corrections. Make it his duty to write on a slip of paper all the mistakes he has committed, and also a corrected copy of the same. After giving the class sufficient time to do the work, call upon them to report. These reports are to be made, not to the teacher privately, but must be a public exercise as much as any recitation.

The advantages of such a course are obvious. The scholar will be more likely to remember the errors he has committed, and will not be so likely to make the same again. He will acquire the habit of investigating and criticising, as it will frequently be necessary to study in order rightly to change a poorly-constructed sentence, and rightly to apply the rules of punctuation, etc. It will create a praiseworthy competition among the pupils of the school, and will induce caution in the preparation of their written exercises. And finally, actual experience proves that it does in a great measure remedy the evil which occasions many a teacher so much burdensome and profitless labor. C. W. C.

THE grand requisite for governing a school, is the power of discerning just when and how far there exists a call for the exercise of authority and discipline, and the rare tact of applying it in the best manner, so far as is needed, *and no farther.*

VISIT OF RHODE ISLAND TEACHERS TO BOSTON AND CAMBRIDGE.*

On Saturday, March 28, about three hundred of the teachers of Providence and vicinity, with their friends, made an excursion to Cambridge, to visit the great museum of Prof. Agassiz, and such other places of interest as their time and inclination would allow. The morning was mild and spring-like, and all that could be desired for an excursion of this kind. Leaving Providence at a quarter of eight, the party reached Boston in due time, and then, proceeding to the Revere House, took the horse-cars for Cambridge.

After the large audience had taken their seats in the spacious lecture-room of the museum, Prof. Washburn, the learned and eminent Professor of Law in the Cambridge Law School, called the assemblage to order, and expressed the satisfaction he felt in welcoming them as citizens of a neighboring State, but still more as citizens of the republic of letters and science, which knows no States. Professor Washburn introduced Prof. Agassiz, who gave the teachers an interesting account of the origin and objects of the museum.

Remarks were made by Rev. B. G. Northrop of Saxonville, N. W. De Munn, and J. J. Ladd, of Providence., etc.

Professor Agassiz announced that the museum was free to all visitors on every day of the week, except Sunday.

The visitors spent an hour or two in looking over that portion of the building which was open to inspection. Of course the examination could but be cursory, owing to the immense number of specimens in the collection. Insects, birds, reptiles, animals, all with very unpronounceable names, and in great numbers, were to be seen. A plaster cast of a megatherium, an herbivorous animal of the tertiary period, and very much larger than the elephant, attracted much attention.

On taking the return cars to Boston, the teachers visited the Eliot School, the pupils of which gave very interesting exhibitions of their proficiency in calisthenics. Some forty or fifty of them went through the various gymnastic exercises of their manual with such a degree of precision and harmony as would appear incredible unless witnessed. To the music of a piano in the room, they observed the most perfect time in their performances. The Principal of the school, Mr. S. W. Mason, explained that the exercise had been in use about two years, and had been productive of the most beneficial results. Not only had it conduced greatly to the physical health of the boys, but had made them more cheerful in their dispositions, and more attentive to their studies. He mentioned, as one result, that the chests of the little fellows had variously increased in one years's practice, from two to four inches in circumference. Nor did the exercise interfere in the least with their studies, but rendered them more cheerful and devoted than previously. The spectators all seemed highly pleased with this exhibition of the proficiency and powers of endurance of the scholars.

We might mention that there was suspended from the wall of the school-room the flag of the 9th (Irish) Massachusetts Regiment. The tattered and begrimmed

* We are indebted to the *Evening Press*, of Providence, for an interesting account of this excursion. — Ed.

ensign bore witness to many a hard fight in the Peninsula campaign, through the whole of which the regiment passed. The flag was sent home to the school by one of the regiment.

The exhibition being over, the teachers departed to various parts of the city where their inclination led them.

TEACHERS' INSTITUTES.

THE Spring Series of Institutes, held at Easthampton, Westford and Bridgewater, closed on Friday, April 17. The attendance at each was unusually large, — that at Easthampton numbered 212; at Westford, 200; and at Bridgewater somewhat over 250. The popular interest in each town was evinced by a generous hospitality in the gratuitous entertainment of the members, and in crowded assemblies of the citizens, especially at the evening lectures. At Easthampton and Westford, carriages were in attendance at the railroad stations, to convey teachers without charge. At Bridgewater the improved state of the roads, and the fine weather, rendered this attention unnecessary. At Westford an ample collation or dinner was provided for all, for two days in succession, in the basement of the church; and at the close of the week carriages were again in attendance for gratuitous service. At Easthampton, a fine exhibition of school gymnastics was given by a class from the Westfield Normal School, and a similar exhibition was repeatedly and admirably given at Bridgewater by members of the Normal School in that town.

The "Brookline Rifles," a juvenile military company, numbering seventy, from Brookline, gave a most excellent illustration of their military training. The drill, occupying nearly two hours, was given on the common, and witnessed by a large concourse from Bridgewater and the surrounding towns. Military officers who were present, say they never saw this drill surpassed by any company of boys or men.

During the last year the average attendance at our Institutes was 22 larger than in any former year. Thus far this year the indications of popular interest are equally strong. It will be a proud fact in history for Massachusetts, that, in the midst of a terrible struggle for national existence, the determined language of the people was, — "Come what may — we will hold on to our schools — the source of our strength and prosperity — alike in peace and war."

MEMORY ACQUIRED BY PRACTICE.

THE history of the celebrated conjurer, Robert Houdin, furnishes a remarkable example of the power of memory acquired by practice. He and his brother, while yet boys, invented a game which they played in this wise. They would pass a shop-window and glance into it as they passed, without stopping, and then at the next corner compare notes and see which could recollect the greatest number of

things in the window, including their relative positions. Having tested the accuracy of their observations, returning to the window, they would go and repeat the experiment elsewhere. By this means they acquired incredible powers of rapid observation and memory, so that after running by a shop-window once, and glancing as they passed, would enumerate every article displayed in it.

When Robert became a professional conjurer, this habit enabled him to achieve feats apparently miraculous. It is told of him that, visiting a gentleman once in a friend's house, where he had never been before, he caught a glimpse of the bookcase as he passed the half-open library door. In the course of the evening, when some of the company expressed their anxiety to witness some specimens of his power, he said to his host, "Well, sir, I shall tell you, without stirring from this place, what books you have in your library." "Come, come," said he, incredulously, "that is too good." "We shall see," replied Houdin; "let some of the company go into the library and look, and I shall call out their names from this place."

They did so, and Houdin began: "Top shelf, left hand, two volumes in red morocco, 'Gibbon's Decline and Fall;' next to these, four volumes in half calf, 'Boswell's Johnson;' 'Rasselas,' in cloth; 'Hume's History of England,' in half calf, two volumes, but the second one wanting," and so on, shelf after shelf, to the unspeakable wonder and admiration of the whole company. More than once a gentleman stole into the drawing-room, certain that he would catch Houdin reading a catalogue; but there sat the conjurer with his hands in his pocket, looking into the fire. — *Phrenological Journal.*

MATHEMATICAL.

PROOF OF ADDITION AND SUBTRACTION.

THE principle of casting out the nines, used in the proof of multiplication, is also applicable to addition and subtraction. Let us take the following example:

3625.....7
7318.....1
5763.....3
9278.....8

25984..1 = 1

We first cast out the nines from each of the numbers to be added; that is, add the figures without regard to their local value, dropping 9 whenever we obtain a number equal to or greater than 9, and note down the remainders. Then add the remainders in the same way, and note down the remainder. Lastly, cast the nines out of the sum, and set down the remainder. If the last two remainders are alike, the work is very probably correct.

Take the following example in subtraction:

6347.....2
1356..6

4991..5

2 = 2

Since the sum of the subtrahend and remainder must be equal to the minuend, the two former are to be treated the same as two numbers whose amount is to be found in addition, and the minuend is to be treated as the sum.

Of course it is possible that this kind of proof may fail; but it is hardly probable, because a failure must arise from a mistake of some multiple of 9. At all events, the proof is just as certain as the analogous method applied to multiplication.

S.

INTELLIGENCE.

PERSONAL.

Ira G. Hoitt has resigned his position as Principal of the Stoneham High School, and been appointed Principal of the High School at Marlboro', at a salary of $950.

David H. Brown, late of South Abington, has been elected Principal of the High School at Stoneham.

Mr. Bennett, of Groton, has been chosen to fill the position at South Abington vacated by Mr. Brown.

Bradford M. Fullerton, recently of East Abington, has been elected Master of a Grammar School in West Cambridge.

Miss Martha E. Young, late a teacher in the State Normal School at Framingham, has been elected a teacher in the Bowdoin School, Boston; and Miss Ellen Hyde, of the advanced class of that institution, has been appointed to take her place.

EDUCATIONAL INTELLIGENCE.

Chicago. W. H. Wells, Esq., City Superintendent, has sent us the Ninth Annual Report of the Board of Education for the year ending December 31, 1862. Luther Haven, Esq., President of the Board, gives an interesting sketch of the financial and statistical history of the schools. He says: "In 1851, there were but four public school buildings in the city. Those buildings accommodated less than 1,700 pupils. The Franklin and the Washington, one on the north and the other on the west side of the river, were erected that year, each with capacity to accommodate 340 pupils. In 1856, the Mosely was erected on the south side, and the Ogden on the north, accommodating 693 pupils each. In 1857, two more of the same capacity as the last were erected as on the west side — the Brown and the Foster. In 1858, the Newberry was erected, seating 1,200 pupils; and in 1859, the Skinner, of the same size and character. The new and elegant school building on Wabash avenue was completed during the past year, with a capacity for 756 pupils. In addition to this building, five branches have been built, making an

aggregate number of seats provided during the year just closed of 2,420, nearly double the number furnished in any preceding year. In 1857, the High School building was erected, with a capacity for 360 pupils; making a total number of seats provided for the children of this city of 10,995. In 1851, less than 1,700 pupils could be accommodated with seats in our schools, — to-day more than 11,000." During the past year the Board have expended $16,282.71 in new buildings, furniture, and improvements, and since the year 1851, $300,000.

The evening school opened during the past year has been eminently successful.

The Superintendent reports the schools in more prosperous condition than ever before. The character of the instruction in the Primary Schools has improved much of late, and all the schools are now rigidly and uniformly graded. A healthy emulation exists among the teachers, who are alive and in earnest. Monthly institutes are held for class drill, discussion, etc. These are efficiently organized, and productive of much good. The Superintendent discusses the value of these institutes and modes of instruction, etc., at some length.

The average number of pupils belonging to all the schools, including the High school, during 1862, was 8,962, an increase of 745 over 1861; the average daily attendance for the same time was 8,295.

The number of pupils in the District Schools who were neither absent nor tardy in a single instance during 1862, was 86. The number during the previous year was 82. The number of pupils who were not absent a single half day during the year, was 113. Curiously enough, Mary E. Purnold of the Scammon School, and Dexter H. Jennings of the Skinner School, have belonged to the schools during five consecutive years, without being absent a single half day.

The number of colored children enrolled during 1862, was 212.—*N. Y. Teacher.*

Italy. There are twenty Universities in the Italian Kingdom as at present established. The kingdom of Sardinia Proper contains three, viz., at Turin, Genoa, and Cagliari; Lombardy one, at Pavia; the Emilian Provinces four, Bologna, Ferrara, Modena, and Parma; the Marches three, Camerino, Macerata, and Urbino; Tuscany three, Florence, Pisa, and Sienna; Umbria one, Perugia; the Neapolitan Provinces one, Naples; Sicily three, Catania, Messina, and Palermo. Three of these Universities are free, viz., Camerino, Ferrara, and Perugia; those of Macerato and Urbino receive a small endowment from the State. Those of Bologna, Modena, Parma, Catania, Messina, and Palermo have large endowments of their own. The number of educational establishments of the highest class in the Italian kingdom, counting six Schools of Science established since the "Liberation," amounts to twenty-six.

BOOK NOTICES.

THE ANALYSIS OF WRITTEN ARITHMETIC. *Book First,* — being an Elementary Manual, designed for Public Schools, and containing Mental, Slate, and Blackboard Exercises. By S. A. FELTER, late of the Brooklyn Collegiate and Polytechnic Institute. pp. 292. Published by Charles Scribner, New York. 1863.

The prominent feature of this excellent treatise consists in the furnishing of a very large number of examples, so varied as to test and strengthen the ingenuity and judgment of the pupil in their solution.

We find in this book nothing that can be called merely puzzles, but questions well calculated to discipline the powers of the pupil's mind, and secure to him thoroughly analytical processes of reasoning.

The review questions, and the suggestive hints to teachers, which the author furnishes in the book, are valuable additions to the work.

We commend it to teachers as a progressive, practical book, well adapted for use in the Common School, as an introduction to the study of a more advanced and comprehensive work.

The Primary Arithmetic, by the same author, is designed as an introduction to the "Analysis," and presents "facts first; — principles afterward." It combines mental with written exercises, and is calculated to interest the young pupil.

ORIGINAL DIALOGUES. A Collection for School and Family Reading and Representation. By EPES SARGENT, author of Standard Speaker and a Series of School Readers. Boston: John L. Shorey. 1862

This collection of well-written dialogues is already too well known to the readers of this journal to need any words of commendation from us. They combine enough of the dramatic element to render them useful in developing a power to "*act*" well, and also contribute much toward forming a natural and conversational style of reading and speaking. The topics are well chosen, and the tone of the pieces is high and refining in their influence. The suggestive hints of the author in his introduction are a valuable addition to the book. We know of no collection of colloquial pieces so well adapted to our schools as this work.

The admirable manner in which the publisher has issued this edition of the work reflects great credit upon this enterprising house.

BARNARD'S AMERICAN JOURNAL OF EDUCATION, for March, begins a new volume, and contains the following interesting articles: 1. What is Education? — Axioms, from Pythagoras to H. Mann. 2. U. S. Military Academy at West Point. 3. Capt. Alden Partridge. 4. Partridge's Military Academy, and Norwich University, Norwich, Vt. 5. Caroline Plummer and her Educational Benefactions. 6. Suggestions on early Mental Training, from Quintillian to Webster. 7. Plays, Pastimes, and Holidays of Children. 8. Bacon's Essay on Studies, and Archbishop Whately's Annotations. 9. Elementary Schools as They Were — Noah Webster, Nott, "Peter Parley," Bushnell, etc. 10. Elementary Schools in Ireland. 11. Subjects and Methods of Instruction for Primary Schools. 12. Illustrated School Books (N. E. Primer style). 13. American Text Books. 14. Books Noticed. 15. Educational Movements — Object Lessons, etc.

THE CONTINENTAL MONTHLY is out in season for its April readers. It contains, in 127 pages, twenty-two articles, prose and Poetry. The first article, "The Wonders of Words," will interest the student of language, who will wish that it was longer. Hon. F. P. Stanton furnishes an article, "How the War affects Americans," Edmund Kirke continues his "Merchant's Story," Hon. R. J. Walker gives a chapter on the "Union," and other readable pieces fill up the number.

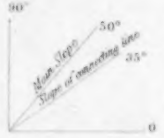
THE ATLANTIC for April contains articles by Mrs. Stowe, D. G. Mitchell (Ike Marvel), Prof. Agassiz, F. Wayland, Jr., J. R. Lowell, Gail Hamilton, The Country Parson, Theodore Winthrop, Mrs. Howe, M. D. Conway, Joseph Severon, F. G. Tuckerman, J. P. Quincy, and Charles Hale. The article by Prof. Agassiz on "The Silurian Beach," is one of deep interest to students of geology and natural history.

PLATE I.

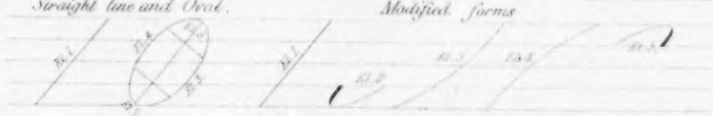
Elements and Principles of Letters.

See Chapters 6 and 7.

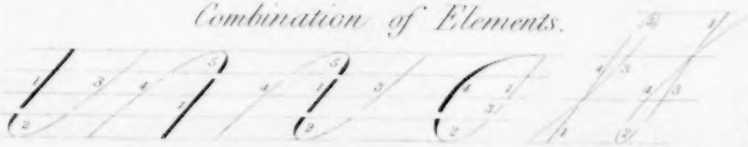
Elements.



Straight line and Oval. Modified forms



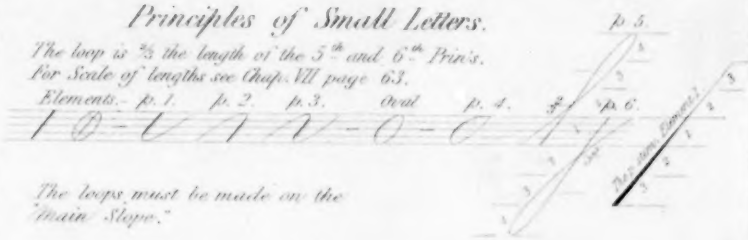
Combination of Elements.



Principles of Small Letters.

The loop is ⅔ the length of the 5th and 6th Prin's.
For Scale of lengths see Chap. VII page 63.

Elements.- p. 1. p. 2. p. 3. Oval p. 4. p. 5. p. 6.



The loops must be made on the "Main Slope."

Principles of Capitals.

Ovals, Prin. 7 Ovals Prin. 8. Prin. 9.

For an explanation of these principles, with their Modifications, See Analysis of the Capitals, page 76 to page 86 inclusive. Also see next page for Combinations, proportions, scale of lengths and complete analysis.

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